BRUHAT BANGALORE MAHANAGARA PALIKE

NAME OF THE PROJECT: IMPROVEMENTS AND BALANCE WORKS TO AMBEDKAR BHAVANA IN WARD No.04 OF YELAHANKA SATELLITE TOWN SUB DIVISION

								Est.Cost.Rs.	6000000.00
Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
1	KSRB13-9.3 : Providing and fixing to wall, ceiling and floor high density polyethylene pipes 6.00 kgf/sq.cm working pressure 50mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.2 / 13.9 Page no 96 item no 13.73.1								
	Outlet pipeline(2 inch dia)	m	1	30			**30**		
	Basic rate							328.00	
	Area weightage 8%							26.24	
	Total						**30**	**354.24**	**10627.20**
2	KSRB13-10.3 : Providing and fixing to wall, ceiling and floor unplasticised PVC pipes 10.00 kgf/sq.cm working pressure 25mm outside diameter chemp plast / Wavin or equivalent make with pipe fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.4 / 13.9 Page no 96. item no 13.76								
	bore well to tank pipe(1 inch dia)	m	1	90			90.00		
	Basic rate							118.00	
	Area weightage 8%							9.44	
	Total						**90.00**	**127.44**	**11469.60**
3	Providing and fixing to wall, ceiling and floor unplasticised PVC pipes 10.00 kgf/sq.cm working pressure chemp plast / Wavin or equivalent make with pipe fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials,with 160mm outer dia. Page no 77. item no 11.56.4								
	sanitary pipe (6 inch dia)	**m**	**1**	**90**			**90**		
	Basic rate							1252.00	
	Area weightage 8%							100.16	
	Total						**90**	**1352.16**	**121694.40**
4	KSRB 12-8.3 : Constructing brick masonry inspection chamber 600x850mm, and 450mm depth, (clear inside dimension) for pipeline with three or more inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS Page no76 item no 11.54								
	inspection chamber(0.6x0.75)	Each	4				4		
	Basic rate							9030.00	
	Area weightage 8%							722.40	
	Total						**4**	**9752.40**	**39009.60**
5	Fabricating, supplying and erecting M.S. TubularTruss of span upto 10m. The bottom and top member is provided with 50x50x6mm double equal angles, welded back to back and in between top and bottom line, in areas of mid section is provided with 50x50x6mm equal single angle for vertical and inclined members and at supporting ends 40x40x5mm single angle is provided. All the members are welded together with 6mm gusset plate as per Drawing. The entire truss is anchored in RCC column by using 4 Nos. of M.S. anchor bolts at each support, with 10mm thick base plate and shoe plate.The work includes cutting, straightening, placing in position of M.S angle and wleding wherever necessary, and applying one coat of red oxide primer coat to all themembers including cost of all materials, labour charges, and hire charges of machineries for cutting, welding, grinding and erection equipments, with all lead and lift, transportation, etc., complete as per specification. Page no.43 item no 7.29								
	Clamps (angles) ISA(50x50x5)	kg	16	0.45			27.36		
			(16x.45x3.8=27.36)						
			For ISA 50X50X5=3.8kg/m((from Steel Table)						
	Clamps (angles) ISA(50x50x5)	kg	16	0.3	3.8		18.24		
			(16x0.3x3.8=18.24)						
			For ISA 50X50X5=3.8kg/m((from Steel Table)						

Sr No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	Steel sections below tanks(two tanks)								
	column ISMC section(8 columns for one tank)	kg	16	1.42	6.8		154.50		
			(2x8x1.42x6.8=154.54) For ISMC 75x40x2= 6.8 kg/m from Steel Table)						
	top ISMC sections	kg	4	2.14	6.8		58.21		
			(2x2x2.14x6.8=58.21) For ISMC 75x40x2= 6.8 kg/m from Steel Table)						
	top ISMC sections	kg	10	2.08	6.8		141.44		
			(2x5x2.08x6.8=141.44) For ISMC 75x40x2= 6.8 kg/m from Steel Table)						
	bottom ISMC sections	kg	8	2.08	6.8		113.15		
			(2x4x2.08x6.8) For ISMC 75x40x2= 6.8 kg/m from Steel Table)						
	bottom ISMC sections	kg	4	2.14	6.8		58.21		
			(2x2x2.14x6.8=58.21) For ISMC 75x40x2= 6.8 kg/m						
	top flat plate	kg	2	54.41			108.82		
			(2x1x1.52x1.52x0.003x7850=108.82) NO`sx(volume)x7850kg/m3=kg						
	Basic rate							111.00	
	Area weightage 8%							8.88	
	Total						**679.92**	**119.88**	**81509.27**
6	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2.Page no 13 Item no 4.5								
	concrete groove cutting								
	concrete	cum	1	30	0.45	0.2	2.7		
	Basic rate							5328.00	
	Area weightage 8%							426.24	
	Total						**2.7**	**5754.24**	**15536.45**
7	KSRB 2-2.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(a) / 2.3.5 page no 6 item no 2.3								
	concrete groove cutting								
	earth for excavation	cum	1	30	0.45	0.45	6.08		
	Basic rate							299.00	
	Area weightage 8%							23.92	
	Total						**6.08**	**322.92**	**1961.74**

Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
8	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. Page No 13 Item No. 4.5								
	concrete hump	cum	1	6	0.6	0.3	1.08		
	Basic rate							5328.00	
	Area weightage 8%							426.24	
	Total						**1.08**	**5754.24**	**6214.58**
9	KSRB13-8.5 : Providing and fixing to wall, ceiling and floor, low density polyethylene pipes 6.00 kgf/sq.cm working pressure 63mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9 Page no. 96 item no 13.70.2								
	Inlet on terrace	m	1	50			50.00		
	Basic rate							297.00	
	Area weightage 8%							23.76	
	Total						**50.00**	**320.76**	**16038.00**
10	KSRB13-7.2-7 : Providing and fixing in position 100mm nominal bore non-return valve vertical type of approved make including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No.KBS 13.2.10 / 13.13 Page no 95 Item no 13.65								
	Plastic valve	Nos	4				4.00		
	Basic rate							2198.00	
	Area weightage 8%							175.84	
	Total						**4**	**2373.84**	**9495.36**
	Chain link fencing for DG								
11	KSRB 2-2.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(a) / 2.3.5 page no 6. item no 2.3								
	excavation for pole	cum	7	0.3	0.3	0.3	0.19		
	Basic rate							299.00	
	Area weightage 8%							23.92	
	Total						**0.19**	**322.92**	**61.03**
12	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. page no13 item no 4.5								
	M20 P.C.C for pole	cum	**7**	**0.3**	**0.3**	**0.3**	0.19		
	Basic rate							5328.00	
	Area weightage 8%							426.24	
	Total						**0.19**	**5754.24**	**1087.55**
13	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineerin - charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting (excluding cost of earthwork and concrete) page no 266 item no 37.2								
	poles	m	10			1.8	**18.00**		
	Basic rate							859.00	
	Area weightage 8%							68.72	
	Total						**18.00**	**927.72**	**16698.96**

Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	Lift Room								
	long wall	Sqm	2	2.9		4.65	26.97		
	short wall	Sqm	2	3.17		4.65	29.48		
	Columns								
	C1	Sqm	14	2.7		4.65	175.77		
	C2	Sqm	16	1.68		4.65	124.99		
	Stair Case								
		Sqm	1	7.3922		4.65	34.37		
	Deduction								
	Ventilator								
	V	Sqm	2	3.01		0.56	-3.37		
	V1	Sqm	10	1.8		0.58	-10.44		
	V2	Sqm	2	1.97		0.38	-1.50		
	Opening	Sqm	1	4.99		2.9	-14.47		
	Lift Room opening	Sqm	1	1.09		2.2	-2.40		
	Basic rate							90.00	
	Area weightage 8%							7.20	
	Total						**940.19**	**97.20**	**91386.89**
19	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after throughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.(P. No. 119, I.No. 15.49 of SR 2018-19).								
	Painting For Ceiling								
	Basement								
	Celling								
		Sqm	1	38.48	23.97		922.37		
	Stair Case								
	Rise	Sqm	6	3.1		0.15	2.79		
	tread	Sqm	5	3.1	0.3		4.65		
	landing	Sqm	1	7.8	3.1		24.18		
	Stair Case	Sqm							
	Rise	Sqm	6	3.1		0.15	2.79		
	tread	Sqm	5	3.1	0.3		4.65		
	landing	Sqm	1	2.1	3.1		6.51		
	Stair Case	Sqm							
	Rise	Sqm	10	3.1		0.15	4.65		
	tread	Sqm	9	3.1	0.3		8.37		
	landing	Sqm	1	8	3.1		24.8		
	Beams sides								
		Sqm	4	38.48		0.6	92.352		
		Sqm	4	29.6		0.45	53.28		
		Sqm	6	8.8		0.45	23.76		
		Sqm	1	8.8		0.3	2.64		
		Sqm	6	23.97		0.45	64.719		
		Sqm	2	23.97		1.2	57.528		
		Sqm	2	23.97		0.3	14.382		
		Sqm	2	5.5		0.3	3.3		
		Sqm	28	17.2		0.23	110.768		
	Basic rate							110.00	
	Extra For Ceiling							8.00	
							Sub Total	118.00	
	Area weightage 8%							9.44	
	Total						**1428.48**	**127.44**	**182046.08**

Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
20	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after throughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications. - with primer. (P. No. 120, I.No. 15.53.2 of SR 2018-19).								
	Basement								
	Outer Painting								
		Sqm	2	35.35		3.05	215.635		
	Below Cladding								
		Sqm	2	3.3		1.9	12.54		
	For Compound Wall								
		Sqm	1	60		2	120		
		Sqm	1	34.4		1.13	38.872		
		Sqm	1	13.15		2.04	26.826		
		Sqm	1	38.7		2.1	81.27		
		Sqm	1	58.9		2.04	120.156		
	Basic rate							102.00	
	Area weightage 8%							8.16	
	Total						**615.30**	**110.16**	**67781.34**
21	Pg No 43,Item No 7.29 Fabrication supplying and erecting M.S. tubular trusses of all spans with prefabricated steel applications using quality material and are durable, reliable and corrosion and abrasion resistant. Welding shall confirm to latest structural welding code. Quality shall be on various parameters like shape, size, design gauge and polish. The entire trusses is anchored in RCC column by using 4 nos of M.S. anchor bolts at each support with 10mm thick base plate and shoe plate. The work includes cutting, straightening, placing in position of M.S. pipes and welding wherever necessary and applying one coat of redoxide primer coat to all the. members including cost of all materials, labour charges, and hire charges of machineries for cutting, welding, grinding and erection equipments, with all lead and lift, transportation, letc., complete as per specification								
	For fixing Storage Tank	kg							
			(QUANTITY OF STEEL ASSUMED @ 4 Kg/ SFT)				393		
	Basic Rate							111.00	
	Area weightage 8%							8.88	
	Total						**393.00**	**119.88**	**47112.84**
22	PROVIDING TRAPEZOIDAL PROFILED SHEET Providing and installing of pre painted Galvolume iron Trapezoidal profiled sheet of approved make 1060 mm width (1000 mm cover width), 28-30 mm crest height with crest distance of 200 mm c/c with 2 ribs at the centre for stiffening. The total coated thickness (TCT) of the sheet will be 0.47 mm +/- 0.02 mm tolerance Zinc-Alu Alloy coating AZ150 gsm as per ASTM 1397/A755-550 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 20-22 microns using self drilling/self tapping screws of 25 mm length, to be fixed over the existing purlins, rafters, channels and trusses.Pg No.299 Item No.38.30								
	For Sump	Sqm	1	7	3.4		23.8		
	Basic Rate							688.00	
	Area weightage 8%							55.04	
	Total						**23.80**	**743.04**	**17684.35**
23	Pg No 128,Item No 15.73 KSRB 15-18.1 : Applying red lead ready mix priming coat over new steel or other metal surface including preparing the surface after throughly cleaning oil, grease, dirt and other foreign matter, and scoured with wire brushes, fine steel wool, sand papers including cost of materials, labour, complete as per specifications page no 123 item no.15.73								
	For Sump	Sqm	1	7	3.4		23.8		
	Basic Rate							41.00	
	Area weightage 8%							3.28	
	Total						**23.80**	**44.28**	**1053.86**
24	Providing and Fixing Ambedkar Statue								
			1				1.00		
	Total						**1.00**	**185000**	**185000.00**
								Sub Total Amount	**1376968.01**

36	10/3.6.11	Supplying and fixing of modular switch & connected accessories on existing modular switch plate as per IS 3854 and IS 293 /16Amps universal socket	Nos	30	162.00	4860.00
37	10/3.10.2	Extra for supplying 4mm thick white plastic plate and covering for junction boxes of size...mm conduit using necessary machine screws.110mm	Nos	100	11.00	1100.00
38	46/7.4.1	Supplying of Ceiling Fan with Capacitor rating As per guideline of BEE 5 star rating and IS:374/79 and also comply with IS:1709/1984 with latest amendment, Rated voltage 220 V/ 50 Hz, Rated power input 48 W +/- 10 %,Rated current As per IS:374/79, Rated power factor 0.9 lagging(min), Rated speed 350 +/- 10% RPM, Rated air delivery 210 +/- 10% Cubic Meter Minimum, Rated service value ≥ 4.2 CMM / Watt, Three Blades of blade leaf 1.05 mm thick Aluminium Alloy sheet, Class B motor insulation,Bearing Two ball bearings, Top 6202, Bottom 6201 , as per IS specification, Motor wdg. Temp rise Shall not exceed 75 deg C over and ambient of 40 0C by resistance method at 245 Volts, Insulation resistance Shall not be less than Two Mega Ohms (2 M Ohms), Leakage current Should not exceed 210 Micro Amp, Power input, watt& current , Air Delivery & Fan Speed as per IS:374/1979 with latest amendment, 2 year manufacturer Warranty 48" Sweep 5 Star (1200mm)	Nos	30	2900.00	87000.00
39	46/7.2.1	Supplying of 1440rpm heavy duty exhaust fan with bracket blades suitable to operate on 230V 50Hz, AC Supply complete12" Sweep (300mm)	Nos	4	2100.00	8400.00
40	46/7.2.2	Supplying of 1440rpm heavy duty exhaust fan with bracket blades suitable to operate on 230V 50Hz, AC Supply complete15" Sweep (450mm)	Nos	4	4000.00	16000.00
41	40/6.4.6	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm	Mtrs	675	225.00	151875.00
42	41/6.4.10	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 120 sqmm	Mtrs	30	600.00	18000.00
43	41/6.5.7	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.On wall /Structure25 sqmm to 75 sqmm	Mtrs	670	35.00	23450.00
44	41/6.5.8	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.95 sqmm to150Sqmm	Mtrs	30	40.00	1200.00
45	41/6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs	15	76.00	1140.00
46	42/6.11.2	Supplying and fixing of heavy duty cable glands suitable for UG cable of 1.1 KV class (metal only)25mm dia	Nos	18	84.00	1512.00
47	42/6.11.4	Supplying and fixing of heavy duty cable glands suitable for UG cable of 1.1 KV class (metal only)45mm dia	Nos	6	194.00	1164.00

48	6.17.6	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.35 sqmm Long Barrel	Nos	150	12.44	1866.00
49	6.17.8	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.35 sqmm Long Barrel	Nos	150	20.00	3000.00
50	6.17.12	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.120 sqmm Long Barrel	Nos	24	32.00	768.00
51	40/6.2	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	Nos	12	4150.00	49800.00
52	40/6.3.10	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.600x600x3mm Copper plate	Nos	12	6900.00	82800.00
53	44/6.1 8.6	Supplying and running GI/Copper conductor for grounding and (along with other wires in conduit system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc.8 SWG Copper wire.	Mtrs	170	105.00	17850.00
54	30/5.4 2.2	Fabricating supplying and mounting MS box made out ...SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete.16SWG	Scms	22200	0.35	7770.00
55	30/5.4 0.1	Supplying ..... amps rated 3phase with neutral bus bar using required capacity electrolytic aluminium strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board.The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary bolts, nuts and washers etc., complete.100Amps 4x30x6mm Aluminium Strips	Mtrs	0.5	2050.00	1025.00
56	27/5.1 7.8	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898.40 Amps TPN	Nos	30	2374.00	71220.00

57	7/2.6.2	Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to IS:8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage upto 100Volts as per IS-694:1990.3C X 2.5Sq.mm	Mtrs	30	98.00	2940.00
58	28/5.18.1	Supplying and fixing regular MCB distribution boards on wall / wood board / flush mounting using required clamps, bolts,nuts etc., with provision for fixing suitable type capacity MCB's single phase / 3 phase / single door with powder coated painting. Made out of 14 SWG MS enclosure.I - Single Door 4Way SP &N	Nos	14	777.00	10878.00
59	65/12.4.3	Supplying of recess mounting non integrated type LED down light ..... W luminaire comprising of pressure decast/ extruded aluminium housing, with spring loaded false ceiling clamps, LED of Power/COB with CCT 6500 degree K,CRI> 70%. efficacy >100 lumen per watt, 120degree beam spread, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The lamp compartment is enclosed with anti glare opal diffuser which enhances the lighting level. LEDs are driven by HF electronic driver integrated in a separate control gear assembly., with PF >0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit,THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 3) 15-18W	Nos	36	2000.00	72000.00
60	65/12.4.2	Supplying of recess mounting non integrated type LED down light ..... W luminaire comprising of pressure decast/ extruded aluminium housing, with spring loaded false ceiling clamps, LED of Power/COB with CCT 6500 degree K,CRI> 70%. efficacy >100 lumen per watt, 120degree beam spread, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The lamp compartment is enclosed with anti glare opal diffuser which enhances the lighting level. LEDs are driven by HF electronic driver integrated in a separate control gear assembly., with PF >0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit,THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 3) 10-12W	Nos	76	1360.00	103360.00

61	65/12.6.3	Supplying of recess mounting non integral type .....LED ..... W luminaire comprising of pressure decast/extruded aluminium housing, with spring loaded fase ceiling clamps,Power LEDs with CCT 6500 degree K, CRI> 70%. efficacy >100 lumen per watt, 120degree beam spread, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The lamp compartment is enclosed with anti glare opal diffuser which enhances the lighting level. LEDs are driven by HF electronic driver integrated in a separate control gear assembly., with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, , THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.LED modular down light 2'x2' / 1' x 4' 42-55 watts	Nos	5	5600.00	28000.00
62	67/12.8.3	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation.Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75.Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any overnment certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark	Nos	10	5480.00	54800.00
63	67/12.9.2	Supply of LED floodlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation.Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/clear glass material,delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains,Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm.Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site locationwith minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w,nominal CRI >75. Luminaire manufacturer should have inhouse facility accredited by NABL/CPRI & any overnment certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/	Nos	11	7500.00	82500.00
64		Supplying, installing, testing and commissioning of Diesel Generator set with following specifications. Power rating as per standard reference condition as per-BS 5514 / ISO 3046 / ISO 8528 & IS 1002 / ISO 3046 Generator set specifications				

Engine: Diesel generating set are rated at 1500RPM and conform to ISO 8528 specifications. The engines are radiator cooled, four stroke and multi cylinder, conforming to ISO 3046. The scope of supply includes: Electrical starter motor 12V DC Battery charging alternator, Bosch fuel system with mechanical governor, A1 Class. Spin-on lube oil filter, Spin-on dual fuel filter with water separator, Turbocharger, Charge air cooler, Silencer (Hospital grade),Dry type air cleaner, Shutoff coil, Flywheel and flywheel housing, First fill of lube oil and coolant, Safety for low lube oil pressure, Safety for high water temperature, Permissible overload of 10% for one hour in 12 hours of operation
Capacity of Fuel Tank: Fuel tank suitable for 8 hours of operation
Alternator: Alternator is suitable for operation at 1500 RPM, 415 Volts, 0.8 pf (lag) suitable for 50 Hz, 3 phase, 4 wire systems, conforming toIS/IEC 60034-1. The Alternator is brushless type, screen protected, revolving field, self excited, self regulated through an AVR. The alternator shall have + 1.0 % Voltage regulation (max) in static conditions- IP: 23 protections with insulation class H
Mounting arrangement: Engine and alternator are mounted on a common MS fabricated base frame with AVM pads
Control Panel: The control panel is manufactured with 14/16 gauge CRCA sheet and is powder coated for weather-proof and long lasting finish. The control panel consists of the following parts:- PS0500 Controller, Aluminium bus bars with suitable capacity within/outgoing terminals, Indicating lamps for 'Load On' and 'Set Running', Instrument fuses duly wired and ferruled, MCCB of suitable rating with overload and short circuit protections.
Genset Controller: microprocessor based generator set monitoring and control system. The control provides a simple operator interface to the generator set, manual and remote start/ stop control, shutdown fault indication, and an LCD hour counter. The integration of all functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. This control has been designed and tested to meet harsh environment in which gensets are typically applied. Features, Functions, protections 16 character x 2 line alphanumeric LCD display with LED Backlight.
Operator interface, Provide a record of most recent fault conditions. Fault history stored in the control non volatile memory, Provide Alternator Data. Voltage (1 ph or 3 ph line to line and line to neutral voltage, Current (1 ph or 3 ph), kVA (3 ph and total), Frequency, Provide Engine Data, Starting battery voltage, Engine running hours, Engine Temp, Engine oil pressure, Control includes provision for Service adjustment and calibration of DG control functions, Voltage, frequency selection, Configurable input and output set up, Meter calibration, Engine controls, Power Start operates on 12 VDC batteries,- Auto start mode accepts a ground signal from remote devices to automatically start the DG set. The remote start will also wake up the control system from sleep mode.

			Engine Starting –The control system supports automatic engine starting, Primary and back up start disconnects are achieved by battery charging alternator feedback or main alternator output frequency. Controller provide configurable time delay of 0-300 secs to start after remote start signal and time delay of 0-600secs prior to shut down after stop signal. Sleep mode increase battery life. Configurable current settings from low to minimize current draw when genset is not working. Engine Protective functions include, Configurable alarm output, Emergency stop: Annunciated whenever an emergency stop signal is received by the control. Low lube oil pressure warning and Shutdown, High engine water temp warning / Shutdown, Low coolant temp warning, Sensor failure indication, Low and high battery voltage warning, Weak battery warning, Fail to start shut down, Cracking lockout: Control will not allow the starter to engage or to crank the running engine. Cyclic cranking: Configurable for the number of starting cycle, (1 to 7) and duration of crank and rest periods. Alternator Protective functions includes, - High and Low AC voltage shut down, Under and Over frequency shutdown / warning, Loss of sensing voltage input shut down.				
			Acoustic enclosure: The acoustic enclosure shall be made of 1.6 mm thick CRCA sheets in suitable approved shade and a structural/ sheet metal base frame painted in black. The walls of the enclosure are insulated with fire retardant foam so as to comply with the 75dBA at 1 mtr sound levels specified by Ministry of Environment & Forest. The enclosure has the following features: Specially designed to meet stringent MOEF/ CPCB norms of 75dBA @ 1mtr at 75% load under free field conditions, Two point lifting for easy handling at customer site, Designed to have optimum serviceability, Air inlet louvers specially designed to operate at rated load made on special purpose CNC machines for consistency in quality and workmanship, Powder coated for long lasting service life and superior finish, With UV resistant powder coating, can withstand extreme environment,				
	60/11.1.12		Use of special hardware for longer life, Insulation material meets exacting IS 8183 specifications for better sound attenuation, Flush styling - no projections, Fluid drains for lube oil and fuel, Fuel filling point inside the enclosure 180 KVA / 144kw	Set	1	1233300.00	1233300.00
65	62/11.2.3		Supply, Erection, testing and commissioning of AMF panel suitable for .....KVA DG set. The panel is of cubical type base/floor mounting control panel with hinged doors, undrilled bottom gland plate, aluminium Bus Bar with the accommodation for .....amps 4 pole contactor for alternator with thermal O/L relay,..... Amps 4 pole contactor for mains, HRC fuse for short circuit protection, Microprocessor based AMF module with supply failure timer, Restoration timer, 3 impulse automatic engine start/stop logic, Mains/generator voltage, ...capacity bypass switch and frequency sensing, PCC 1301 controller with water temperature/Lube oil pressure/ engine speed, Voltage/ampere/Frequency/ KVA, Running-hour count, No of starts, Fault indication, over / under speed, Fails to start, Low oil pleasure, High engine temperature, Under/over voltage, over current, Earth fault relay, with indications for Mains on, Load on Mains, Battery charger on Push buttons AMf module by pass Mode, Battery charger unit with inbuilt Auto/Manual and Flat/Boost facility.Above 125 KVA upto 250 KVA	Set	1	203200.00	203200.00
66	7/2.5.20		Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 10C X 4Sq.mm	Mtrs	30	350.00	10500.00
67	40/6.3.6		Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs	50	505.00	25250.00

68	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos	31	175.00	5425.00
69	79/14.7.1	Fixing all types and all capacities of fluorescent / false ceiling / spot light / CFL / LED fittings indoor on the wall / ceiling / rafters / girders using 23/0.0076" twin twisted PVC insulated wires, required Nos of round blocks and clamps.On wall / ceiling / Rafter / Girders	Nos	110	110.00	12100.00
70	80/14.8	Fixing a ceiling / Wall mounting fan of all capacities and all types to the existing 'S' hook with fan regulator to the existing board together with supplying and fixing 5 amps. ceiling rose, ecessary length of 23 / 0.0076 inch PVC insulated twin twisted copper wire and wiring.	Nos	30	150.00	4500.00
71	80/14.12	Fixing one exhaust fan in the nitch already left in the wall with bolts and nuts and 5 amps. ceiling rose with sufficient length of 23 / 0.0076 inch PVC insulated twin core wire.	Nos	8	400.00	3200.00
72	14/4.4.1	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Conical pole with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards,Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of ..... long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended 3 meters - Top 75mm and bottom 105 mm dia	Nos	7	5037.00	35259.00
73	79/14.1.2	Supplying and Fixing of.....mm dia class A GI pipe bracket up to 2 Mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe	Nos	7	835.00	5845.00
74		Rcc For Dg set Bed 0.3x2.00x3.0 Mtrs	Nos	1	10000.00	10000.00
					SUB TOTAL Rs	**2654072.00**
		Approved Data Rate				
75		Supply, testing & commissioning of wall mount speaker Frequency Range (-10 dB) 1.75 Hz-20 KHz Frequency Response (□ 3dB) 1:75 Hz-20 KHz Coverage Pattern: 100□ x 15□ nominal, Crossover Modes: Full range amp / passive, externally switch able Crossover Frequency: 1.2 KHz, Power Rating Passive: 400/800 watt (Continuous /programme for balcony use Make: Ahuja/Studi master orEquivalent	Nos	4	42500	170000.00
76		Supply, testing & commissioning of "Mounting Frame for fixing Speaker enclosures. Includes Quick Release. Make: Custom	Nos	4	8125	32500.00

77		Supply, testing & commissioning of "Two –Way compact green room speakers in Speaker – Frequency Range (-10 dB):60Hz – 20 KHz Frequency Responses (□ 3dB): 70 Hz –20 KHz Coverage Pattern: 50□ x 90□ nominal Crossover Modes: Passive / Bi-amp Crossover Frequency: 1.1 KHz Power Rating: Passive Full-Range 60 to 90 W Green room and control room monitor including wiring & fixtures Make: Ahuja//Studio Master or Equivalent	Nos	3	16800	50400.00
78		Supplying ,installation ,Commissioning and Testing CP PLUS 3 MP , 50 meters ip bullet camera,1/3" 3MP PS CMOS Image Sensor,Max 25fps@3MP, 25/30fps@1080P,H.264, H.264H, H.264B , MJPEG dual-codec encoding,DWDR, Day/Night(ICR), 3DNR, ROI, AWB, AGC, BLC, HLC,3.6mm fixed lens (6mm optional),IR Range of 50 Mtrs, IP67, SD Card, PoE,Mobile Software: iCMOB, gCMOB,CMS Software: KVMS Pro, vOptimus Pro inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	20	23160	463200.00
79		Supplying ,installation ,Commissioning and Testing CP PLUS 32 Ch. H.265 4K Network Video Recorder Up to 32 channel IP camera input H.265/H.264 dual codec decoding Up to 8Mp resolution preview and playback Max 200Mbps incoming bandwidth Support 4 SATA HDDs up to 24TB, 2 USB(1 USB3.0) HDMI / VGA simultaneous video output Support Multi-brand network cameras ONVIF Version 2.4 conformance Mobile Software: iCMOB, gCMOB inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	1	66892	66892.00
80		Providing and Supplying NAS hard disk drives 6 TB inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	1	22850	22850.00
81		Supplying, installation, Commissioning and Testing D-Link 8-Port Gigabit Switch With 2 Combo SFP Ports inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	1	28500	28500.00
82		Providing and Supplying CAT6 OUT Door 305 mtr Cable Box inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	5	64250	321250.00
83		Providing and Fixing HDMI Cables 10 Mtrs inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	1	6500	6500.00

84		Supplying ,installation ,Commissioning and Testing of 43" LED TV – Reputed make Sony/Samsung/LG inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	1	45000	45000.00
85		Supplying ,installation ,Commissioning and Testing Patch cords CAT6 2 Mtr Box inclusive of all taxes and transportation charges as per the direction of Engineer in Charge	Nos	15	1200	18000.00
		Sub Total Amount includSR Rates				1225092.00
		Total Electrical Work				**3879164.00**
		Total Civil works				**1376968.01**
		Sub Total				**5256132.01**
		GST Charges (12% on SR Electrical items)				**318488.64**
		GST Charges (12% on SR Civil items)				**165236.16**
		Sub Total				**5739856.81**
		Add KRIDL Charges 4%				229594.27
		miscellaneous and PMC Charges				30548.92
		Grand Total Rs				**6000000.00**

CERTIFICATE:

1) The work spot has been inspected and found to be necessary
2) The work spot comes under B.B.M.P
3) The provisions made in the estimate are necessary and minimum.
4) The estimate is based on C.S.R of 2018-2019, KPWD (Ele) S.R.2019-20 , BESCOM SR and Approved Rates.

Asst. Engineer (Ele)

Asst. Exe.Engineer (Ele)
Bruhat Bangalore Mahanagara Palike

EXECUTIVE ENGINEER (Ele)
YELAHANKA DIVISION BBMP

Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore-92

Administrative Approval

Accorded For R.S. 60.00 Lakhsonly
Head of A/C...P-3748
CER NO :...28..... Dt:..04/11/19

Technical Sanction
Accorded For R.S. 60.00 Lakhs only
Head of A/C...P 3748
CER NO :...165..... Dt:..06.11.2019

E.E. (Proj) 4/11/19

TA

CE (YNK)